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ABSTRACT

This feasibility study was conducted to determine if the Michigan Occupational Data Analysis System (MODAS) can be implemented or modified in Illinois by studying the information needs of state agencies and local educational institutions. Agencies were asked how they might use the MODAS system for activities such as curriculum development and identification of transferable skills of displaced workers and skills for new and emerging occupations. The system was reviewed to determine its coverage of Illinois occupations and programs and how MODAS might relate to existing occupational information systems in Illinois. The study found that the MODAS system may be useful in Illinois, but some changes will have to be made first. Suggestions were made concerning the expansion of the system and possible modes of delivery. Recommendations were also made about the implementation of the system in the state; timelines for a proposed phase-in of the system were constructed; and potential staff requirements were determined. (KC)

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ED253659

MODAS

Feasibility Study For Implementation of V-TECS Occupational Data Analysis System (ODAS)

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ILLINOIS OCCUPATIONAL INFORMATION COORDINATING COMMITTEE

AUGUST, 1984

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INTRODUCTION

The goal of this project was to conduct a feasibility study to determine if the V-TECS Occupational Data Analysis System can be implemented or modified in Illinois by studying the information needs of state agencies and local educational institutions. Agencies were asked how they might use the ODAS system for activities such as curriculum development, identification of transferable skills of displaced workers and skills for new and emerging occupations. The system was reviewed to determine its coverage of Illinois occupations and programs and how ODAS might relate to existing occupational information systems in Illinois.

The feasibility study will discuss completeness of the system in Chapter I. This chapter will consider the extensiveness of the system in relation to user needs. Proposed usage by the various states belonging to the V-TECS consortium including Illinois was investigated to determine appropriate groups to contact in Illinois for demonstrations. A description of the comments from the potential users is summarized in Chapter II. The comments are summarized into various subject areas in relation to current and potential uses of the MODAS system. Comments are related to the technical aspects of the system and how agencies perceive the system from a user point of view. Suggestions are made concerning the expansion of the system and possible modes of delivery in Chapter III. Recommendations are made in Chapter IV about the implementation

of the system in Illinois. Timelines for a proposed phase-in of the system in Illinois are included in the recommendations as well as indications of potential staff requirements.

CHAPTER I

AN OVERVIEW OF THE OCCUPATIONAL DATA ANALYSIS SYSTEM

Origin of the System and Technical Description

V-TECS, the Vocational-Technical Education Consortium, is a consortium of states that have bonded together to develop worker-validated catalogs. Each catalog represents the job tasks associated with a job or group of jobs. To date, 125 national catalogs have been developed. The feasibility study will consider how the V-TECS information might be used to improve the decision-making process of vocational administrators, counselors, and curriculum specialists.

The V-TECS Occupational Data Analysis System (MODAS) was developed by Michigan State University under contract from the Michigan State Board of Education. The system is designed to use a computer to analyze and sort Michigan's data bank of job task lists which are 75% V-TECS materials. The analysis is accomplished through the use of occupational keywords from the Handbook for Occupational Keywords developed by the United States Department of Labor. The keywords were developed based on similarities among various job descriptions in the Dictionary of Occupational Titles and provide the common link among the various occupational descriptions. This common link then allows the ODAS to:

1. Describe skill requirements of jobs and the level of education or training required.
2. Describe skills included in training programs.
3. Identify common skills in different training programs so programs can be clustered.
4. Assist in describing a person's skill background.
5. Articulate skill backgrounds with jobs or training programs.
6. Identify skills for new and emerging occupations.
7. Identify general education requirements, special needs factors, labor market information links, and other factors related to different jobs.
8. Provide critical data for content validation of Civil Service examinations.

In addition to the worker validated catalogs and the occupational keywords, the MODAS system includes information from the Vocational Preparation and Occupations (VPO) data tape. The full crosswalk computer tape contains each DOT code, related occupational codes and titles from the OES, Census, SOC and related CIP vocational program codes and titles. In addition, occupational codes and titles from the categories in the classification systems that do not have an assigned relationship to a specific nine-digit DOT code are contained on this tape so that all codes from all occupational classification systems are shown. This computer tape also includes General Education Development (GED) codes, Specific Vocational Preparation (SVP) codes, physical demands, working conditions, temperaments and

aptitudes. The additional information from the VPO data tape is linked to all of the task lists in the MODAS system in an interactive fashion. CIP categories that do not have a task list assigned to them can be accessed in a batch mode to obtain the wealth of information that is available on the VPO tape.

The MODAS as it presently exists is a computerized interactive system that can be accessed by a dial up telephone using a modem. Currently the system can be accessed through Telenet, a network that links potential users with the central computer facility at the University of Michigan in East Lansing, Michigan. The basic entry menu contains nine functions that are shown below:

1. General information
2. Keyword information
3. Keyword list information
4. Search information
5. Help
6. Keyword list
7. Search by name
8. Search by code
9. Print or end

Enter number of desired action(s)

A profile of the system related to task lists is as follows:

1.	Task lists	170
	Duties	1,101
	Tasks	16,413
	Tool/Equipment Items	1,767
	CIP Codes*	87
	DOT Codes**	310

There are an estimated 269,979 keyword-task combinations. In addition to keywords there are 4,395 DOT codes and 97 CIP codes taken from the Vocational Preparations and Occupations data tape. MODAS has 3,000 keywords on file of which 1,500 are assigned to tasks.

In the following section the study will review the coverage of this extensive data base in relation to Illinois programs. This analysis was conducted to determine if MODAS covered a significant share of the instructional program categories that are offered in Illinois. In addition the analysis will review the coverage in terms of occupations that exist in the state. The analysis also will discuss the implications of the gaps in coverage that currently exist in the MODAS data base.

CIP Coverage

The V-TECS catalogs produced by the consortium provide detailed information on the tasks required to perform in a specific program area. This provides an opportunity to know exactly what competencies are required for individuals completing the program. In addition it provides the administrator with detailed information about the content areas where training should be provided. An important attribute of the V-TECS catalogs is that they have been validated by employers and employees. This gives educators confidence that the students will be able to perform specific tasks that are directly related to job performance.

The Illinois State Board of Education (ISBE) is responsible for approving vocational education programs at the secondary and post-secondary level in Illinois. There are currently 347 programs approved at the secondary level and post-secondary level. The program approval unit has the responsibility to approve programs that are efficient and effective and meet the needs of employers and employees. V-TECS catalogs offer a way to establish standards for program approval since they have been validated by employers and employees. This process is expected to take on more importance with the implementation development of the region delivery aspect of the new Education for Employment Program. All of the parties involved will be interested in determining the tasks that should be included in the programs. If the V-TECS catalog and other task lists are

to be used as a standard for reviewing the content of programs it is important that the coverage is comprehensive or offers the possibility of being comprehensive within a reasonable amount of time.

The IOICC review of CIDS programs covered by MODAS was based on the latest information available. MODAS is continually being updated so that comments about specific CIP codes and task lists may not be correct by the time the report is being read. The analysis was undertaken to illustrate broad issues rather than to pinpoint the exact number of programs or keywords which have been or will be incorporated into the system. Also, the MODAS computer system is constantly being updated to make the system easier to operate for the user. IOICC comments were based on the operation of the system at the time the report was prepared and will not reflect enhancements made since its completion.

Staff obtained the list of all vocational education programs approved by the ISBE for secondary and post-secondary programs. In addition staff also obtained a list of V-TECS and other task lists that were incorporated into the MODAS system. Each of the V-TECS catalogs and other task lists in the system is assigned a CIP code. The number of task lists with CIP codes presently in the system is 170 and the number of approved ISBE programs is 347. It should be noted that some task lists were developed for CIP programs that were not applicable to programs offered in Illinois. This left

116 programs with task lists representing 33 percent of ISBE approved programs. The above analysis indicates that a significant number of programs offered by the State Board are not included in interactive system at present. A list of ISBE approved programs and the number covered by task lists is included in Appendix A.

Since the number of programs covered by MODAS was substantially less than the number of programs offered by the ISBE, the staff decided to review the program coverage in more detail. It was decided that one criteria for comprehensiveness of coverage would be size of program enrollments. If programs had small enrollments then the issue of coverage might not be as important. Conversely, programs with very large enrollments would be important, since a large number of students would be trained. It was found that there were gaps in coverage at various levels of enrollment. Although the distribution of gaps by enrollment level was about the same across the various enrollment size categories, the impact in terms of coverage by number of persons being trained was obviously much greater for the programs with high enrollment. For example, there were sixteen programs with enrollment exceeding 2,500 where a task list was not available. This means that there were some very large programs in Illinois where MODAS could not be used to identify specific task lists. A complete analysis of the coverage task lists in relation to enrollment size of ISBE programs is included as Appendix B. In terms of reviewing approved programs

in Illinois there were obviously gaps in the availability of task lists.

Occupational Coverage

The comprehensiveness of the MODAS occupational coverage varies with the interpretation of the information available in the different files of the system. If the coverage is based on the occupations covered by the VPO then the occupational coverage is extensive. The occupational coverage is then the data base available for the Dictionary of Occupational Titles (DOT) the Occupational Employment Statistics (OES) and the Standard Occupational Classification (SOC). Gaps in coverage would exist to the extent that new occupations are determined to exist in Illinois that are not covered by the three basic classification systems. The limitations based on this analysis are not significant since there is no official list of occupations that currently exist in Illinois that are not covered.

Occupational Coverage Based on Task Lists

The coverage of MODAS in terms of task lists for program categories has been previously discussed. It was noted that the MODAS coverage of programs in terms of task lists was not nearly as complete as the coverage of programs in terms of the VPO

analysis. The VPO data base provides a crosswalk that shows the occupations that are covered by each CIP code. It is assumed that the assignments of the relationships between CIPS and occupational categories on the VPO tape are correct.

In order to analyze the data occupations are shown that were not included in the various enrollment size classes. Examples of occupations related to those CIPS are shown as follows in each enrollment size category where there were no task lists for CIP codes.

EXAMPLES OF OCCUPATIONS NOT INCLUDED IN MODAS TASK LISTS

Size Class
1-99 Enrollment

CIP	Occupations
01.0101 Agriculture & Business Management	Farmers
03.0601 Wildlife Management	Fish & Game Wardens
15.0401 Biomedical Equipment Technician	Electro Medical Equipment Repairman

Size Class
1,000-2,499 Enrollment

CIP	Occupations
17.0523 Health Care Aide	Health Aides, Ex. Nursing
43.0201 Fire Control & Safety Technology	Safety Inspectors, Construction Inspectors

Size Class
2,500-10,000 Enrollment

CIP	Occupations
01.0301 Agricultural Production	Farmers
20.0202 Child Care Aide/Assisting	Child Care Attendants

Another way of looking at the coverage of the task lists by occupational category is to view occupations frequently identified as high tech. Although there is no universally agreed upon list of occupations that meet this criteria, it is generally agreed that scientists, engineers, and technicians can be classified as high tech. It is assumed that these occupations would be areas of interest to a variety of different users; curriculum specialists, counselors and placement staff. The occupations in the VPO that were listed under each CIP code not covered by a task list were identified by staff. Examples of Occupational Employment Statistics (OES) occupational titles that were not covered are shown below:

EXAMPLES OF HIGH TECH OCCUPATIONS NOT INCLUDED IN MODAS TASK LIST

CIP Code	CIP Title	OES Occupational Title
15.0403	Electrical Mechanical Technology	Electrical/Electronic Technicians
15.0603	Industrial Technology	Industrial Engineering Technicians
41.0303	Metallurgical Technology	All Other Engineering Technicians
17.0202	Dialysis Technology	All Other Medical & Dental Technicians
17.0815	Physical Therapy Assisting	Physical Therapist Technicians
20.0404	Dietetic Aide/Assisting	Dietetic Technicians

The list of occupations indicates that there are some important occupations not covered by the CIP task lists. The employment in the occupations ranges from a low of 472 for Dietetic Technician to a high of 19,733 for Electrical/Electronic Technician based on information prepared by the Research and Analysis Division of the

Department of Employment Security. The list of occupations indicates that there are some occupations not covered by task lists that can be classified as high tech. As noted previously, the MODAS system allows a person to request information available from the VPO, however it does not provide task lists for the occupational area and it does not provide a link to these areas using the keyword searches. It is important for the user to be aware of the gaps in coverage so that erroneous conclusions will not be made based on the results of specific searches.

Technical Issues Related to MODAS Coverage of CIP Codes and Occupations

The analysis of MODAS coverage of CIP codes turned out to be more complicated than originally anticipated. The first issue is a matter of clarification regarding coverage. The MODAS system includes the detailed information included in the Vocational Preparation and Occupations - a computer tape that was prepared for the National Occupational Information Coordinating Committee (NOICC). This tape contains extensive information about virtually all CIP codes that are related to vocational education programs, i.e., programs that require two years of post-secondary training or less and are generally included on the tape.

If the interpretation of the MODAS system in terms of coverage by CIP code means that there is some information about each CIP

code then the MODAS system has virtually 100 per cent coverage of programs approved by the State Board. The exceptions are basically programs that have been assigned unique codes that are not found in the CIP manual. It is not surprising that these programs would not be found on the VPO tape since they are unique to Illinois. It should be noted that two areas of particular interest CAD and CAM fall into this category. These are program areas that are of particular interest to various groups including students, counselors, and vocation administrators. They are not included in the broad definition of coverage based on the VPO data or the narrow definition of coverage based on task lists.

The broad definition of coverage includes items such as DOT occupations related to the program, GED levels, aptitudes and interests related to the program. This information can be very valuable to a variety of users without utilization of the task lists. It should be noted, however, that there is no direct interactive access to this information for a specific CIP. The interactive access strategies are tied to the CIP codes which have task lists assigned to them.

The coverage of MODAS also becomes more complex when the coding of the V-TECS catalogs and other task lists is reviewed in detail. One of the problem areas may be that the V-TECS catalogs were initiated prior to the development of the new CIP manual. This means that the content of the catalogs was focused

on program descriptions based on the old Office of Education (OE) classification system. To the extent that the new CIP codes reflect changes in program content, the CIP codes may not exactly fit the catalogs that were developed previously. Analysis based on the assumption that the catalogs were developed specifically for a six-digit CIP code may be in error.

Another issue related to the coverage is the revision of task lists currently in existence. Some of the early V-TECS catalogs were prepared in the middle 1970's. There has been considerable discussion about the changing duties that are taking place in the context of tasks performed in the work place. To the extent that there have been changes in the tasks that were previously indicated, it may be that some of the present catalogs need to be revised, particularly if they are going to be used as benchmarks in a program approval context. This updating process may require funding beyond the scope of resources as V-TECS currently exists. Priorities should be reviewed in terms of catalogs that need revision in addition to an expansion in coverage of CIP codes presently not included in the system. The potential obsolescence of some of the catalogs is an issue that needs to be considered if the MODAS task lists are to be considered as the minimum standard for program approval. A way for MODAS to illustrate the importance of new tasks in a particular program category would be to put asterisks beside them when the old catalogs are revised. This would alert

people to new activities that should be incorporated into their curriculum. It would also be useful to counselors and individuals seeking new careers.

It was noted in the review of the relationships that the MODAS system had identified multiple CIPS for the same task lists. Since the study did not address the issue of the quality of the coding process, the staff did not make any judgments about the accuracy of these multiple assignments. However, it should be noted that there may be some questions about the validity of using these multiple CIP assignments for some purposes, particularly program approval. For example, it is assumed that there are valid distinctions in the tasks related to each CIP category. It can be misleading to indicate that the task lists are exactly the same for multiple CIPS. For other purposes such as counseling, and worker transfer of skills, the multiple CIP listings may be useful. The unsophisticated user should be aware of these subtle issues which could create significant errors in the expectation of the appropriate tasks for a unique six digit CIP code.

The staff were not clear about the process that was used to assign CIP codes to the various task lists. The East Central Network for Curriculum Coordination issued a publication TLC Task Listing Catalog which identifies V-TECS catalogs and other task lists by CIP code. It should be noted that they did not assign

multiple CIPS for their listing of each task list. This suggests that there are potential differences in viewpoint concerning the multiple relationships established for each code. It was not in the scope of this study to examine the catalogs in order to make interpretations considering the validity of the multiple CIP assignments. The important point is that educational agencies may have serious disagreement about the way in which CIPS are assigned.

There were some instances where there seems to be a discrepancy between the CIP code assigned to a task list and the CIP code and title described in the CIP Manual. For example, the list of MODAS CIPS on file does not include a CIP number for Legal Secretarial (07.0604). This would lead to the conclusion that there is no task list available for Legal Secretaries. However, the list of MODAS CIPS does include Secretarial (07.0706). Two task lists, 07.0601 MI and 07.0601 VT, are assigned to this CIP code. The computer printout of MODAS task lists shows that 07.0601 MI is the code number for Legal Secretary and that the code 07.0601 VT is Legal Secretary and Court Reporter. This suggests that there may be errors in the assignment of CIP codes to the V-TECS catalogs. The Task Listing Catalog published by the East Central Network for Curriculum Coordination shows that the CIP code assigned to the V-TECS catalog Legal Secretary and Court Reporter is 07.0604, the same code used in the CIP manual. It should be noted that there may be differences in the interpretation of the assignment of CIP codes to V-TECS catalogs since some of the original catalogs

were not developed to meet descriptions in the CIPS manual.

An improvement in the use of the system would be to make the MODAS task list codes identical to the CIP codes to which they are related. To the extent there is more than one task list with the same CIP code, a seventh digit could be assigned to the code. This would eliminate confusion and clarify the exact relationship between the task lists and the CIP program they represent.

There were also instances where task lists did not appear on the MODAS CIP file but were shown on the printout of MODAS Task Lists. There are MODAS task lists for Dental Assistant 17.0100 VT and Dental Hygienist 17.0100 VT. However, there is no listing on the MODAS CIP file for Dental Assisting (CIP 17.0101) or Dental Hygiene (CIP 17.0102). Staff made their evaluation of MODAS coverage of CIPS based on the computer listing "MODAS CIPS on File As of 5/31/84." A copy of this computer printout is included as Appendix C. These variations in coding and coverage suggest that a user must be very knowledgeable in order to make maximum use of the system.

CHAPTER II

APPLICATIONS OF THE SYSTEM IN ILLINOIS

The more users an automated information system has the greater is the potential for spreading the cost of maintenance and updating. MODAS was originally developed as a tool for easing some of the tasks of curriculum development in vocational education. However, as its potential versatility has emerged through review by pilot users and by the systems developers, its applicability for a number of other tasks has become apparent. It seems to fit some of the planning or counseling needs of a wide variety of agencies outside of the vocational education community.

As a part of this evaluation project the IOICC staff has taken steps to acquaint a number of Illinois state agencies with the benefits of MODAS. We had found in contacting V-TECS coordinators around the country that the picture of dissemination efforts in other states is mixed. With one or two exceptions it has been limited to use by the state office of education for curriculum development.

In March, 1984 we sent a questionnaire to all V-TECS coordinators (see Appendix D). We received responses from ten V-TECS states. Two states indicated they had not considered the likely utility of MODAS for their state, the other eight indicated they had considered it to varying degrees.

On May 9th and 10th the MODAS staff conducted a demonstration workshop at East Lansing, Michigan to which all V-TECS coordinators and board members were invited. It was a sort of official unveiling of the system in its form at that time.

In a follow up telephone survey in August, 1984 one of the two states that had indicated no show of interest in March told us they had now purchased the hardware necessary for accessing MODAS but had not experimented with the system yet.

The eight states indicating interest include Illinois and Michigan which has developed an extensive network of pilot sites. Of the remaining six, two have done nothing with the system since spring, although one had been in attendance at the May 9th and 10th demonstration workshop in Michigan.

Of the remaining four, their use of the system has been essentially curriculum development and little, if any effort, has been made at dissemination to other state agencies. Alabama is the one exception to this with efforts at involving JTPA agencies in utilizing the system.

Following the May workshop the Director of V-TECS, Ron McCage issued a password to all V-TECS states to enable them to access the system. As of August 19th, a total of 48 runs had been made

on this password and this IOICC study was probably responsible for a third of those. Some runs were made by MODAS central staff on their password for V-TECS states but they amounted to less than half a dozen inquiries over all. These were all for curriculum related projects according to MODAS.

Although it is unintentional, the existence of the V-TECS catalogs of occupational tasks appears to be a closely held secret outside of the participants in the V-TECS consortium and those working on the development of vocational education curriculum. In addition the government's Handbook of Occupational Keywords is another of those esoteric resources which remain elusive even to professionals in the field. The combination of these valuable data sources into one retrieval system by the Michigan members of the V-TECS consortirum is a development which offers a variety of potential applications.

Proposed usages of the Michigan Occupational Data Analysis System are extensive. These usages were initially derived by the system developers through an analytical review of the system's contents. Other uses have been added by persons in the field who have been using the system during a pilot period. Considering these noted applications, a number of agencies within Illinois would appear to have usage potential.

Noted functions to which the system can be applied includes guidance and career selection, job task identification, worker skill identification, job training need assessment, job training planning and development, suitable client/vocational preparation program matching, curriculum development job placement, job development, job interview preparation, resumé preparation, job transfer, worker skill transfer, worker evaluation, and economic development.

This IOICC evaluation project identified numerous agencies within the State of Illinois whose functions include those noted in the above MODAS applications. Among these are: Department of Rehabilitation Services' counselors and program planners, Job Training Partnership Act counselors and Job Club sponsors, Community College curriculum developers, counselors, and placement officers, regional Area Vocational Center counselors and program planners, Chamber of Commerce planners and developers, Department of Commerce and Community Affairs analysts and economic developers, Central Management Service interviewers and job evaluators, Job Service Counselors, Public Aid Counselors, and regional Curriculum Materials Center representatives.

In consideration of these potential users, inviations containing an executive summary (see Appendix E) of MODAS were issued to representatives of each of the above agencies. Response was received and system demonstrations were scheduled with representatives from the Department of Rehabilitation Services, Department of Commerce

and Community Affairs, Community College Board, State Board of Education, and Central Management Services. Upon contact the other agencies which could be reached indicated a moderate interest but insufficient staff or time to allow for attendance at a system demonstration. Those who did view the system were asked to cooperate in this study by completing an evaluation questionnaire. The results of this are compiled as follows: (A sample questionnaire is Appendix F.)

The assessment of MODAS by agency representatives was based on a short demonstration of about two hours. Five demonstrations were presented to 18 representatives for the agencies. Its purpose was not intended to teach agency representatives how to use the system, its purpose was to inform them about system capabilities and to demonstrate how the computer system worked. Questions in the assessment instrument were organized around issues related to coverage, access to computer facilities, usage time and training requirements.

Comments concerning coverage of MODAS CIPS was extremely varied. In some agencies interest was in specific areas so that comprehensive coverage was not important. In other instances agency staff indicated limited coverage would cause some problems. However, it did not nullify their interest in using the system. The issue of coverage might become more apparent as users became more familiar with the system and attempted to use MODAS for very sophisticated analysis.

Access to computer facilities also varied by agency and staff function. Obviously the state agencies have access to BICS, the state computer facility. Some staff have direct access to computer terminals while others have to go to another unit or section to obtain access to a terminal. Many of the state agencies now have access to micro computers that could be used with a modem to link up with other mainframe computers. They could use the micro terminals to access the system as it presently exists at Michigan State University or the ECN facility at SIU-Edwardsville.

The amount of time that agency staff estimated they would use the system also varied widely. This is not surprising since the functional uses varied from direct client services to program review. Estimates of frequency of usage ranged from daily/weekly to monthly. This variance suggests that the MODAS system provides an opportunity to do a variety of functions that will meet different user needs. Within a specific agency the frequency of usage estimates were more consistent.

Differences in the number of times the system would be used over a time interval also made an impact on the way staff would like to use the system. In some cases there was a clear preference to ask someone else to perform searches based on the specifications of the user. The sample of users was too small to make precise statistical breakouts but it appears that there was a strong interest in having someone perform the searches.

An issue for the ISBE and others to decide is who this "other" person should be.

The amount of time agency representatives believed it would take to become familiar with the system varied from two hours to an indeterminate amount of time. Since the participants did not actually use the system, their perceptions of the amount of time it would take to use the system effectively were based on limited knowledge. The experience of the IOICC staff is that it took an extensive effort to become familiar with the system in order to demonstrate it effectively to the various agencies. The IOICC experience suggests that the two to four hour estimate by some of the participants in our demonstrations was an understatement of training time. IOICC experience with training on the computerized versions of Horizons suggests that at least two training sessions of one day each are necessary to teach people how to use an interactive computerized system effectively. Minimum training frequently results in limited or non-usage of the system after the trainer leaves.

CHAPTER III

DELIVERY OF THE SYSTEM AND INTERFACE WITH EXISTING SYSTEMS IN ILLINOIS

Delivery

Of all the modes of delivery considered for this sytem, only two showed considerable promise: a single national data base located at a central site; or individual states with regional data bases distributed around the country. The first alternative entails a status quo approach in terms of the current MODAS picture. This approach is feasible for several reasons:

1. The system is fully operational, even though it is undergoing changes.
2. Staff resources are concentrated (thereby minimized) in one geographical location for future systems development.
3. ASCII terminals are present in most of the state agencies in Illinois and this type of terminal is probably available in other states, which provides a ready hardware base.
4. Demand for such a system (in Illinois) does not appear to justify another computer site location at this time.
5. The average cost per access is approximately $6.90 per session.

The second approach which was identified dealth with a distributed

delivery system. In Illinois the best arrangement would appear to be with the Educational Cooperative Network (ECN) based at SIU-Edwardsville. This system was recommended because of the similarity of hardware (both ECN and MODAS utilize Cyber 700 series mainframes) and similar operating systems. Programming resources are readily available at ECN for subcontractual work ($30/hour). This network also provides numerous sites around the state where access can be established for local telephone dial up ports.

The other major networks in the state (BICS, the state central network and PLATO, the University of Illinois educational network) were considered, but discarded for several reasons. This was primarily because they both use very expensive hardware and do not run compatible operating system software.

Should the MODAS or V-TECS staff decide that the best way to disseminate this data is through a distributed delivery system, then several factors should be considered by the State Board of Education and/or other interested states.

1. Maintenance factors related to the database and delivery framework:
   a. Inclusion and addition of new V-TECS and regionally relevant catalogs for other occupations;
   b. Replacement of the existing VPO data with new updates as it is developed;
   c. The application of changes made to the system framework and

the way the information is delivered (as Michigan continues to modify the program); and

d. Conversion of existing code and control language to the different versions of the operating systems and hardware.

2. The cost of maintenance and adaptation activities:
   a. Estimates ranging to $10,000 just for consultant services in conversion;
   b. The need for a project coordinator staff person ($18,000);
   c. And support staff personnel ($5,000);
   d. The size of the thirteen million character database disk storage cost ($5,000 - $7,000); and
   e. Computer resources necessary for testing, debugging and comparison ($3,000).
3. The location of staff or organizational sponsorship to provide for the completion of the distributed system.
4. The amount of time that would be consumed before such activity became functional and secondly, production (estimated at 6 months to a year).

Interface With Existing Systems in Illinois

There are a variety of occupational information sources in Illinois that are directly related to the MODAS system. The

career information system (Horizons) of the Illinois Occupational Information Coordinating Committee provides extensive information about the characteristics of occupations, programs and schools. This information is available in publications and on mainframe computer files. Supply and demand data for occupations organized by clusters is available in printouts from a mainframe computer. Neither of the previously mentioned occupational information systems contains task lists, the complete VPO data or a link to programs by occupational keywords. This would seem to indicate that a comprenensive occupational data analysis system or a similar product would complement the existing occupational data in a potentially productive fashion.

A comprehensive system would conceptually include the elements of all three systems: occupational keywords, task lists, occupational characteristics, instructional programs and schools. The ideal system would allow a user to go through the files from beginning to end - starting in either direction or allow direct access at any point in the system. Since the three systems are not integrated at the present time in one large interactive data base, other options are available that could allow users to utilize the information effectively. An initial activity would be to "crosswalk" the various files. For example, a user should have a crosswalk that would allow a person to go to the Horizons occupations from the MODAS task lists or from the MODAS task lists to the Horizons occupations. Similarly a crosswalk should be

available that would make it possible to go from the MODAS task lists or the occupational keyword searches to the occupational supply and demand clusters. The crosswalks would initially need to be developed in a manual form that would be easily understood by the users.

A second stage of integration would be to have the Horizons and MODAS system available on the same mainframe computer with the same access procedure. In this mode the user would be able to access all of the information from both systems with a single sign-on to the computer. A further enhancement would be to make the occupational supply/demand clusters available on the same computer and a part of the same initial sign-on process. A further integration of the three systems would complete a restructuring of the data files that would integrate them into one system rather than a cosmetic integration through the utilization of a single sign-on process. This integration would be extremely costly and would require extensive long range planning and funding.

Another option would be to move from mainframe options to micro options for the delivery and utilization of the three systems. The career information (occupational descriptions, program and school information) is being delivered on a micro computer in other states at the present time. Occupational supply/demand clusters, similar to the ones being developed in Illinois, are being delivered on a micro computer by a commercial

data base management program. Both of these micro computer systems operate in an interactive mode using hard disc systems. The IOICC is considering a move to deliver both of its systems on micro computers using hard disks as this is becoming more conomically feasible. It is our understanding that the developers of MODAS are considering a micro computer project. Since the costs of mainframe computers and telephone lines make their utilization prohibitively expensive for many users, the micro computer approach seems to be an approach that would expand the potential number of users across a spectrum of agencies at the State and local level, especially as the hard disk technology becomes more common. The comments related to a need for crosswalks and potential integration of the systems would become even more important, should the agencies involved in this project decide to promote the micro applications.

CHAPTER IV

RECOMMENDATIONS

It is apparent in talking with other states that the value and potential uses of MODAS has not yet been made known on any systematic basis. It has required extensive efforts on the part of the IOICC staff to develop a moderately comprehensive understanding of the system. At this stage of its development it is a system requiring detailed training to understand and access in all its components. Where it is in use in Michigan sites, the use is specific to a single objective and the operator/technicians are experienced in working toward that objective on a repetitive basis.

Ongoing improvements are currently being made so it is likely that many of the recommendations made by this report will have been adopted by the time the first phase of development is completed in October.

Some of the comments made under the heading of recommendations will reiterate statements in the preceding chapters but the intent is to specifically emphasize recommendations to the Illinois State Board of Education as it considers its role in V-TECS/MODAS future.

System Options

For the time being it seems appropriate to continue to centralize development and enhancement of the system before seriously considering distributing tapes to state or regional sites. The complexity of the system requires highly specialized staff resources be available to make the necessary corrections and improvements in the system. Michigan has developed a network of user sites and is currently making extensive use of the system even though there are still improvements and refinements needed before it can be truly considered operational for general access and use.

In looking at this, we are aware as indicated in Chapter I, that there could eventually be advantages to having a version of the MODAS housed and maintained in Illinois to avoid the problem of instructional programs important to Illinois being ignored or given a lower priority. However, it would seem to be premature to consider such a move until the system in Michigan has been tested and improved in terms of ease of use and understanding.

Maintenance

There are obvious problems in attempting to maintain a system as complex as MODAS for the entire country in a single site. Some occupations require local validation and may even be exclusive to a local region. This is a consideration which

may take on increased importance as the MODAS is refined and more local use is made of it. However, it presently does not appear to outweigh the advantages to the states of the central MODAS operation working with the states to accomplish this on a cooperative basis.

An improvement in the use of the system would be to make the MODAS task list codes identical to the CIP codes to which they are related. To the extent there is more than one task list with the same CIP code, a seventh digit could be assigned to the code. This would eliminate confusion and clarify the exact relationship between the task lists and the CIP program they represent.

A possible way to reduce issues about CIP classification and task lists is a related project at the East Central Network for Curriculum Coordination. It should be taken into consideration that there are task lists which currently exist in Illinois. The East Central Curriculum Network is in the process of incorporating these task lists into a useable system. This system presently contains no keyword entry but has the capacity to call up specific task lists.

Staffing

It is apparent from IOICC staff efforts to operate and

demonstrate the MODAS that some specialized staffing needs will have to be met on a long term basis.

There must be coverage at the mainframe by a technician who can respond by telephone to inquiries regarding operating problems. In a number of instances as a demonstration was underway, an apparent loop would occur that necessitated technical expertise and there was no one available at MODAS to assist. Obviously, refinements in the system will eliminate some of the recurring problems, as will greater familiarization, but it seems long term technical assistance will be necessary to provide direct training and "hand-holding". If this system is to be made available to a wide variety of users with possible use by direct client service agencies, there will be a need for detailed training. This means a need for persons capable of providing that training and points up an obvious limitation should the total responsibility in this area continue to be housed in a single location.

One option could be to compromise in the area of the degree of skill required by limiting training to the fundamentals of using keywords and then batch process the results for a final product. This would entail fewer people to receive complete training in the system and only a secondary level of skill would be required for the counselors in service agencies.

As presently structured, the central staff at MODAS is handling all training and operating support. If Illinois were to eventually move to a state based system there would be a need for a number of training and technical support staff at the state level and the additional costs would be fairly substantial. The cost/benefit ratio will be an important factor in making the eventual decision.

Enhancements

Operating System

MODAS is not an easy system to move around in. There appears to be no ease of access or egress. Once a command is entered the search or exercise must be carried out through several stages before a new direction can be given. There is a need for programming changes that will enable the operator to move about in the system with more flexibility.

Related to the above concern is the issue of recognizing where you are in the system at any given time. Some kind of screen identification is needed so the operator can tell where they are and whether they are in a command mode or an execution mode, etc. We understand that MODAS is developing some type of screen labels which should help solve this problem.

Content

There is a need for an operators guide or manual that fully describes the system and helps the operator identify errors in administering commands. These manuals should clearly differentiate the differences between operator input and computer responses by the use of different typefaces. In addition, several of the standard "special characters" used to delineate input to the computer should be clearly identified.

We are also informed that MODAS staff are developing several process guides for employment counseling, for economic development and for curriculum planning and evaluation. These will help the user deal with specific goals and provide examples while utilizing the system.

CONCLUSION

The staff at MODAS have been extremely helpful in providing the information needed by IOICC staff to carry out this project. They are aware of many of the problems that hamper the ease of use of the system and are working toward solving them. The MODAS staff indicate that their first phase of development will be completed by mid-September.

We recommend that another look be taken at the system then or whenever they indicate they have made their improvements. At that time the need for additional improvements may or may not be clear - at least the changes they indicate are in the works now should be entered and a final review will give a more accurate picture than is now available while changes are in process.

The eventual usefulness of MODAS or a future IODAS (I for Illinois) will be determined in part by the V-TECS Board who are primarily responsible for the existence of MODAS and the MODAS staff who control its future developments. Should those developments continue at the pace of the past few months, MODAS will undoubtedly become a very useful tool in the lives of counselors, manpower planners and job and curriculum development experts. In the meantime the Illinois Board of Education should closely monitor and encourage the V-TECS Board's plans for distribution, update and training of the system, as these plans have a serious impact upon the direction and success of the system itself.

ILLINOIS STATE BOARD OF EDUCATION

Secondary Programs

Approved Vocational Listing

CIP Code No.	Vocational Program Titles	Funding
Agricultural Occupations		
01.0201	Agricultural Mechanics	1
01.0301	Agricultural Production	1
01.0401	Agricultural Products and Processing	1
01.0501	Agricultural Services and Supplies	1
01.0601	Horticulture	1
03.0101	Renewable Natural Resources	NA
03.0401	Forestry Production and Processing	NA
01.9902	Agricultural Cooperative Education	1
Business, Marketing and Management Occupations		
06.1701	Real Estate	1
06.1801	Small Business Management	1
07.0101	Accounting, Bookkeeping and Related Programs	1
*07.0302	Business Computer and Console Operation	1
*07.0303	Business Data Entry Equipment Operation	1
*07.0305	Business Data Programming	1
07.0604	Legal Secretarial	1
*07.0605	Medical Secretarial	1
*07.0606	Secretarial	1
*07.0608	Word Processing	1
*07.0705	General Office Clerk/Information Specialist	1
08.0101	Apparel and Accessories Marketing	1
08.0201	Business and Personal Service Marketing	1
08.0401	Financial Services Marketing	1
08.0501	Floristry, Farm and Garden Supplies Marketing	1
08.0601	Food Marketing	1
08.0702	Industrial Marketing	1
*08.0705	Retailing	1
*08.0706	General Marketing	1
08.0801	Home Furnishings and Office Products Marketing	1
*08.0806	Hardware Marketing	1
08.0901	Hospitality and Recreation Marketing	1
08.1001	Insurance Marketing	1
08.1101	Transportation and Travel Marketing	1
08.1201	Vehicles and Petroleum Marketing	1
09.0201	Advertising	1
07.9902	Business and Office Cooperative Education	1
08.9902	Marketing Cooperative Education	1

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Code No.	Vocational Program Titles	Funding
	Health Occupations	
17.0101	Dental Assisting	1
17.0203	Electrocardiograph Technician	1
17.0204	Electroencephalograph Technician	1
*17.0205	Emergency Medical Technician - Ambulance	1
17.0209	Radiologic Aide	1
17.0210	Respiratory Therapy Technician	1
17.0211	Surgical Technician	1
17.0212	Diagnostic Sonography	1
17.0304	Medical Laboratory Aide	1
*17.0404	Home Health Aide	1
*17.0405	Mental Health/Human Services Assisting	1
17.0502	Central Supply Aide	1
*17.0503	Medical Assisting	1
17.0506	Medical Records Aide	1
17.0507	Pharmacy Assisting	1
17.0511	Veterinarian Aide	1
17.0513	Ward Clerk	1
17.0523	Health Care Aide	1
*17.0601	Geriatric Aide	1
*17.0602	Nursing Assisting	1
*17.0605	Practical Nursing	1
17.0611	Food Service Health Supervision	1
17.0704	Optometric Assisting	1
17.0809	Occupational Therapy Aide	1
17.0814	Physical Therapy Aide	1
17.0817	Therapeutic Recreation Technician	1
17.0830	Rehabilitation Aide	1
17.9902	Health Occupations Cooperative Education	1
	Home Economics Occupations	
20.0101	Occupation of Homemaking	1
20.0201	Child Care and Guidance Management and Services	1
20.0301	Clothing, Apparel and Textiles Management, Production and Services	NA
*20.0306	Fashion/Fabric Coordination	1
20.0401	Food Production, Management and Services	1
20.0501	Home Furnishings and Equipment Management, Production and Services	NA
20.0601	Institutional, Home Management and Supporting Services	1
*20.0602	Companion to the Aged	1
20.9902	Home Economics Cooperative Education	1

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CIP Code No.	Vocational Program Titles	Funding
Industrial Occupations		
04.0501	Interior Design	1
10.0104	Radio and TV Production and Broadcasting Technology	1
12.0402	Barbering	1
*12.0403	Cosmetology	1
15.0510	Environmental Control	1
15.0702	Quality Control Technology	1
*43.0203	Firefighting	1
43.1000	Public Service Occupations	1
*46.0102	Brick, Block and Stonemasonry	1
*46.0201	Carpentry	1
46.0301	Residential/Commercial Electrician	1
*46.0302	Electrician	1
46.0303	Lineworker	1
*46.0401	Building Maintenance and Custodial Services	1
46.0404	Drywall Installation	1
46.0408	Painting and Decorating	1
46.0501	Plumbing, Pipefitting and Steamfitting	1
46.1000	Construction and Building Trades	1
*47.0102	Business Machine Repair	1
*47.0103	Communication Electronics	1
*47.0104	Computer Electronics Maintenance and Repair	1
*47.0105	Industrial Electronics	1
*47.0106	Major Appliance Repair	1
47.0107	Motor Repair	1
47.0108	Small Appliance Repair	1
47.0201	Heating, Air Conditioning and Refrigeration Mechanics	1
*47.0302	Heavy Equipment Maintenance and Repair	1
*47.0303	Industrial Machinery Maintenance and Repair	1
*47.0405	Operation, Maintenance and Repair of Audio-Visual Equipment	1
47.0408	Watch Repair	1
47.0420	Instrument Repair	1
47.0501	Stationary Energy Sources	1
47.0601	Vehicle and Mobile Equipment Mechanics and Repairers	1
47.0602	Aircraft Mechanics	1
*47.0603	Automotive Body Repair	1
*47.0604	Automotive Mechanics	1
*47.0605	Diesel Engine Mechanics	1
*47.0606	Small Engine Repair	1
48.0101	Drafting (General)	1
48.0201	Graphic and Printing Communications	1
*48.0203	Commercial Art	1
*48.0204	Commercial Photography	1
*48.0206	Lithography, Photography and Platemaking	1
*48.0208	Printing Press Operations	1
*48.0209	Silk Screen Making and Printing	NA
*48.0303	Upholstering	1
48.0501	Precision Metal Work	1

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CIP Code No.	Vocational Program Titles	Funding
48.0502	Foundry Work	1
*48.0503	Machine Tool Operation/Machine Shop	1
*48.0506	Sheet Metal	1
48.0507	Tool and Die Making	1
*48.0508	Welding, Brazing and Soldering	1
48.0604	Plastics	1
*48.0703	Millwork and Cabinet Making	1
49.0101	Ground Support Operations (Air Transportation)	1
49.0102	Airplane Piloting and Navigation	1
*49.0204	Mining Equipment Operation	1
47.9902	Industrial Cooperative Education	

Special Programs

59.0101	Educable Mentally Handicapped In-School	1
59.0102	Trainable Mentally Handicapped In-School	1
59.0103	Community Workshop Experiences	1
59.0104	Special Education In-School	1
59.0105	Experience Based Education	3
59.0106	Special Education Cooperative Education	1
59.0107	Cooperative Work Training (CWT)	1
59.0108	Interrelated Cooperative Education	1
99.9901	Elementary Occupational Information	4

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ISBE PROGRAMS NOT COVERED BY MODAS CIP LIST

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
1-99 Enrollmer			
01.0101	Agricultural Business & Management	90020200	Farmers
		90020400	Farmers
		90040200	Farmers
01.0602	Arboriculture	80001402	Tree Trimmers
03.0601	Wildlife Management	70100606	Fish & Game Wardens
		80000200	Animal Caretakers
03.0401	Forestry Production & Processing, General		
06.0301	Banking & Finance		
06.0403	Production Management		
06.0801	Insurance Management		
06.1101	Labor Relations		
06.1301	Business Statistics		
06.1601	Personnel Management		
06.1802	Small Business Ownership		
07.0501	Personnel and Training		
08.0105	Jewelry Marketing		
08.0406	Securities & Commodities Marketing	10243819	Broker's Fl Reps, Sec. Tradr
		30001601	Broker & Market Operators
		30001605	Sales Agents, Sales, Reps
		40065207	Trade Recorders
		40066806	Capital Analysts
08.0501	Floristry, Farm & Garden Supplies Marketing		
08.0605	Wholesale Food Marketing	20061615	Wholesalers
		20061699	All Other Managers
		30001807	Sales Reps, Nontechnical

1-99 Enrollment (Cont.)

08.0704	Purchasing	10240801	Purchasing Agents &/or Buy
		10240804	Buyers, Retail &/or Wholsl
		10243825	Contract Administrators
		20061699	All Other Managers
08.0903	Recreational Services Marketing	10243899	All Other Profes. Workers
		20061699	All Other Managers
		30001899	All Other Sales Workers
		40066833	Film Bookers
		40066898	All Other Office Clerical
		70200001	Supervisors, Nonworking, Ser
		70200099	All Other Service Workers
08.1001	Insurance Marketing		
08.1104	Tourism	30001899	All Other Sales Workers
		40066898	All Other Office Clerical
		70200001	Supervisors, Nonworking, Ser
08.1105	Travel Services Marketing	20061699	All Other Managers
		40066401	Station Agents
		40066403	Reservation Agents
		40066405	Ticket Agents
		40064804	Travel Counselors
		70080608	Guides, Travel
08.1201	Vehicles & Petroleum Marketing		
17.0202	Dialysis Technology	10121099	All Other Med & Dent Techn
17.0208	Nuclear Medical Technology	10120904	Radiologic Techs & Nuc Med
17.0220	Radiation Therapy Assisting		
17.0401	Alcoholism Counseling	10243201	Group Recreation Workers
		10243401	Caseworkers
		70083000	Social Service Aides
17.0502	Central Supply Technology	10121099	All Other Med & Dent Techn
17.0512	Veterinarian Assisting	80000200	Animal Caretakers
17.0513	Ward Clerk	40066811	General Clerks, Office
17.0520	Nursing Home/Convalescent Care		
17.0611	Food Service Health Supervision		

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
1-99 Enrollment (Cont)			
17.0701	Opthalmic Dispensing	50143002	Opticians, Disp &/or Optic
17.0702	Opthalmic Lab Technology	50143001 50143002	Lens Grinders Opticians, Disp &/or Optic
17.0704	Optometric Assisting	10121099 50143002	All Other Med & Dent Techn Opticians, Disp &/or Optic
17.0804	Exercise Physiology		
17.0830	Rehabilitation Aide	70060400	Health Aides, Ex. Nursing
17.9901	Allied Health Careers		
20.0101	Occupation of Homemaking		
20.0505	Home Decorating	10221001	Designers
10.0101	Educational Media Technology	10141404 10243899	All Other Technicians All Other Professional Wrkr
10.0110	Telecommunications		
12.0402	Barbering	70031000	Barbers
15.0302	Electrical Technology	10080803 50121006	Electrical & Electronic Tech Automatic Maintainers
15.0304	Laser Electro-Optic Technology	10081899	All Other Science Techn
15.0401	Biomedical Equipment Technology	50083224	Electromedical Equipmt Rep
15.0410	Fluid Power Technology		
15.0503	Energy Conservation & Use Technology		
15.0505	Solar Heating & Cooling Technology		
15.0510	Environmental Control		
15.0607	Plastics Technology		
15.0701	Occupational Safety & Health Technology	10243804 50142201 50142202	Safety Inspectors Fire Bosses Inspectors

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
1-99 Enrollment (Cont)			
23.1101	Technical Report Writing		
23.1105	Technical Communications		
41.0202	Nuclear Power Plant Operation Technology	50120800	Power Station Operator
43.0202	Fire Protection Administration		
44.0401	Public Administration		
46.0303	Lineworker	50021401	Electricians
		50082801	Electric Track Switch Main
		50120201	Cable Splicers
		50120202	Line Installers, Repairers
		50120203	Trouble Shooters, Power Line
		50121007	Cable Repairers
		50121008	Cable Installers
		20121009	Frame Wirers
46.0403	Construction Inspection	10243823	Bldg Inspectors, Fire Insur
		20040400	Construction Inspectors
		50142202	Inspectors
46.0404	Drywall Installation	61082001	Dry Wall Applicators
		61082002	Lathers
		61082003	Tapers
46.0406	Glazing	50141802	Glaziers
		61081426	Glass Cutters, Machine
		61088011	Glaziers, Stained Glass/Joi
46.0408	Painting & Decorating	50022200	Painters, Maintenance
		50022600	Paperhangers
		61084210	Painters, Production
		61089203	Billposters
46.0501	Plumbing, Pipefitting & Steamfitting		
47.0401	Instrument Repair	50083206	Electrical Instrument Repair
		50083210	Instrument Repairers, Optic
		50083221	Instrument Repairers
		50144824	Field Mechanical Meter Test
47.0408	Watch Repair	50142202	Inspectors
		50142402	Watchmakers
		61080433	Clock, Watch Assemblers
		61082405	Glass Grinders, Watch Crystal

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
1-99 Enrollment (Cont)			
47.0420	Instrument Repair		
47.0502	Conventional Electric Power Generation	50081804	Hydroelectric Machine Mech.
		50081808	Power Transformer Repairer
		50120800	Power Station Operator
		50144003	Diesel Plant Operators
		50144004	Auxiliary Equipment Operat
		50144014	Stationary Engineers
		50144015	Turbine Operators
		50144827	Corrosion Control Fitters
		61085602	Stationary Boiler Firers
		61085618	Firers, Marine
48.0103	Civil/Structural Drafting	10080601	Drafters
		10080602	Estimators & Drafters, Util
48.0104	Electrical/Electronic Drafting	10080601	Drafters
		10080602	Estimators & Drafters, Util
48.0502	Foundry Work	50020606	Refractory Materials Repair
		50050500	Heat Treaters, Annealers, Etc
		50061005	Setters, Molding & Coremkg
		50061804	Molders, Bench &/or Floor
		50061805	Molders, Machine(Metal)
		50061808	Shell Mold/Sh Core Mach Op
		50062404	Guide Setters
		50062415	Rolling Mill Ops/Attendant
		61020401	Tappers, Metal
		61020404	Casters, Finished or Semifi
		61020405	Casters, Ingots & Pigs
		61020407	Stove Tndrs &/or Bl Fur Kp
		61020430	Steel Pourer Helpers
		61020435	Pourers, Metal
		61020436	Furnace Operators, Cupola T
		61020438	Furnace Chargers
		61083646	Mill &/or Grinder Ops, Mine
		61083831	Mixer Operators, Hot Metal
		61083857	Mixers, Ore & Metals
		61087213	Calciner Operators
		61088210	Roll Builders
		61088213	Slab Depiler Op.
		61088236	Pot Tenders
		61088274	Coremakers, Machine
		61088277	Briqetting Mach Operators
		61088287	Die-Casting Mach Ops, Sette
		61088403	Coremakers, Hand,Bench,Floo
		61088813	Mold Closers, Core Set
		61088835	Pot Liners
		61088849	Wax Pattern Workers
		80002813	Shakeout Workers, Foundry
		80002819	Furnace Op Helpers/Heater

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
1-99 Enrollment (Cont)			
48.0520	Numerical Control	10141200	Tool Programmers
48.0602	Jewelry Repair	50061801	Metal Mold Makers
		50100802	Etchers &/or Engravers
		50142401	Jewelers &/or Silversmiths
		50142410	Stone Setters
		61088419	Rubber Mold Makers
		61088803	Bench Hands, Jewelry
		61088805	Casters
49.0104	Aviation Management		
50.0501	Theatre Technology		
59.0106	Special Education Cooperative Education		
59.0108	Interrelated Cooperative Education		
100-499 Enrollment			
01.0401	Agricultural Products & Processing		
06.1801	Small Business Management		
07.0502	Educational Assisting & Training	40065600	Teachers Aides/Educ Assistant
		40066898	All Other Office Clerical
07.0604	Legal Secretarial	40020200	Secretaries
08.0201	Business & Personal Service Marketing	40062216	Customer Serv. Reps, Print
		40066808	Service Representatives
		70080607	Funeral Attendants
08.0401	Financial Services Marketing		
08.0702	Industrial Marketing	20061699	All Other Managers
		30001807	Sales Reps, Nontechnical
		30001808	Sales Reps, Technical
		30001899	All Other Sales Workers
08.0801	Home Furnishings & Office Products Marketing		
08.1101	Transportation & Travel Marketing		
08.1102	Freight Transportation Marketing	40066402	Traffic Agents
		40066404	Transportation Agents

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
100-499 Enrollment (Cont)			
08.1106	Warehouse Services Marketing	20061699	All Other Managers
		40066899	All Other Plant Clercial Work
09.0201	Advertising	10221201	Writers &/or Editors
		10240803	Media Buyers
09.0401	Journalism		
09.0701	Radio/Television		
17.0102	Dental Hygiene	10120402	Dental Hygienists
17.0210	Respiratory Therapy Technology	10101809	Inhalation Therapists
17.0211	Surgical Technology	10121002	Surgical Technicians
17.0406	Mental Health/Human Services Technology		
17.0507	Pharmacy Assisting	10121C09	Pharmacy Helpers
17.0808	Occupational Therapy Assisting		
17.0809	Occupational Therapy Aide	10121012	Physical Therapy Technic
		70060400	Health Aides, Ex. Nursing
17.0815	Physical Therapy Assisting	10121012	Physical Therapy Technic
17.0817	Therapeutic Recreation Technology		
20.0404	Dietetic Aide/Assisting	10121011	Dietetic Technicians
20.0501	Home Furnishings & Equipment Management, Prod. & Svcs.		
20.0601	Institutional, Home Management & Support Services		
04.0501	Interior Design	10221001	Designers
10.0104	Radio & Television Production & Broadcasting Technology	10080801	Sound Recording & Repro Tech
		10080802	Video Recording Engineers
		10080806	Microphone Boon Operators
		10080808	Broadcast Technicians
		10081815	Light Technicians
		10221202	Film Editors
		10221802	Television Camera Operators
		0243802	Technical Directors
		40066847	Script Clerks

CIP CODE	CIP TITLE	RELATED GES MATRIX OCCUPATIONS CODE	TITLE
100-499 Enrollment (Cont)			
15.0403	Electromechanical Technology	10080803	Electrical & Electronic Tech
		50083221	Instrument Repairers
		50144824	Field Mechanical Meter Test
15.0404	Instrumentation Technology	10080803	Electrical & Electronic Tech
		50083221	Instrument Repairers
15.0501	Air Conditioning, Heating & Refrigeration Technology	50144014	Stationary Engineers
15.0601	Chemical Manufacturing Technology	61087290	Chemical Operators A
		61087295	Chief Operators
		61087288	Chem. Operator Helpers
15.0603	Industrial Technology	10081000	Industrial Engineering Tech
		10243808	Cost Estimators
15.0604	Manufacturing Technology	10081000	Industrial Engineering Tech
15.0702	Quality Control Technology		
15.0801	Aeronautical Technology	10080803	Electrical & Electronic Tech
15.0803	Automotive Technology		
15.0903	Petroleum Technology	50144022	Dispatchers, Refinery
		61089067	Refinery Operator Helpers
		80001019	Loaders, Tank Cars &/or Truck
41.0303	Metallurgical Technology	10081898	All Other Engineering Tech
43.0102	Corrections		
46.0301	Residential/Commercial Electrician		
47.0109	Vending & Recreational Machine Repair	50083215	Coin Machine Servicers, Rep
		50083225	Pinsetter Mechanics, Automa
		50083227	Electronic Mechanics
47.0602	Aircraft Mechanics	50080400	Aircraft Mechanics
		80002830	Line Service Attendants
48.0507	Tool & Die Making	50061002	Die Setters
		50063001	Tool & Die Makers
		50063003	Die Sinkers
		61082403	Die Polishers, Wire &/or Tu

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
100-499 Enrollment (Cont)			
48.0604	Plastics	50062202	Patternmakers, Plastics
		61021610	Punch Press Operators, Plast.
		61081458	Trimmers, Plastics
		61085015	Sawers, Plastics
		61087294	Drier Operators, Chem, Plast.
		61087295	Chief Operators
		61087608	Heat Sealers
		61087623	Extruder Ops, Rubber or Plast.
		61087624	Extruder Op Helpers, Rub or Pls
		61087631	Blow Molding Machine Oper.
		61087635	Rotation Molding Mach. Oper.
		61087640	Pilling Machine Operators
		61088416	Press Operators, Plastics
		61088817	Fabricators, Plastics
		61089078	Caster, Plastics
49.0101	Ground Support Operations (Air Transportation)		
49.0102	Airplane Piloting & Navigation	10140200	Airplane Pilots
		10140800	Flight Engineers
59.0101	Educable Mentally Handicapped (In-School)		
59.0102	Trainable Mentally Handicapped (In-School)		
59.0105	Experience Based Education		
59.0107	Cooperative Work Training		
500-999 Enrollment			
07.0201	Banking & Related Financial Programs	40061400	Collectors
		40062202	Credit Reference Clerks
		40062211	Credit Reporters
		40065209	Raters
		40065212	Worksheet Clerks
		40066842	Mortgage Clerks
		40066845	Insurance Clerks
07.0702	Clerk Typist	40020600	Typist
08.0601	Food Marketing		
17.0101	Dental Assisting	10120401	Dental Assistants

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
500-999 Enrollment (Cont)			
17.0304	Medical Laboratory Aide		
20.0301	Clothing, Apparel & Textiles Management, Prod. & Svcs.	50144403	All-Around Tailors
15.0901	Coal Mining Technology		
44.0701	Social Service Occupations		
59.0103	Community Workshop Experience		
1,000-2,499 Enrollment			
01.0201	Agricultural Mechanics		
06.1701	Real Estate		
08.0101	Apparel & Accessories Marketing		
17.0209	Radiographic Medical Technology	10120801 10120804	X-Ray Technicians Radiogic Techs & Nuc Med
17.0523	Health Care Aide	70060400	Health Aides, Ex. Nursing
15.0101	Architectural Design & Construction Technology	10243808 10243823 20040400	Cost Estimators Bldg Inspectors, Fire Insur Construction Inspectors
43.0201	Fire Control & Safety Technology	10243804 20040400 70100402	Safety Inspectors Construction Inspectors Fire Inspectors
43.1000	Public Service Occupations		
47.0201	Heating, Air Conditioning & Refrigeration Mechanics		
48.0501	Precision Metal Work	50023800 50061806 60062203 61021604	Structural Steel Workers Molders, Pattern Patternmakers, Metal Power Press Tenders

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
2,500-4,999 Enrollment			
01.0301	Agricultural Production	90020200	Farmers
		90020400	Farmers
		90040200	Farmers
		90040400	Farm Laborers
01.0601	Horticulture		
06.0401	Business Administration & Management		
08.0707	Wholesaling	10240801	Purchasing Agents &/or Buy
		10240804	Buyers, Retail &/or Wholsl
		20061615	Wholesalers
		20061699	All Other Managers
		30001807	Sales Reps, Nontechnical
		30001808	Sales Reps, Technical
		30001899	All Other Sales W rkers
		40061604	Order Clerks
08.0901	Hospitality & Recreation Marketing		
20.0202	Child Care Aide/Assisting	70081601	Child Care Attendants
		70081602	Child Care Workers
47.0103	Communications Electronics	10080803	Electrical & Electronic Tech
		10141000	Radio Operators
		50081400	Data Processing Mach Mechani
		50082600	Radio & TV Servicers & Repair
		50083227	Electronic Mechanics
		50121002	Installers, Repairers, Telep
		50121003	Station Installers
		50121004	Telegraph Equipmt Maintain
		50121005	Electricians, Office
		50121010	Central Office Repairers
		50121011	Trouble Locators, Test Desk
		50121013	Shop Reapirers, Instrument
		50121014	Teletype Installers
		61080415	Wirers, Electronic
47.0601	Vehicle & Mobile Equipment Mechanic & Repairers	50083226	Motor Boat Mechanic
48.0201	Graphic & Printing Communications	50100202	Setters, Bindery Mach.
		50100204	Bookbinders, Hand
		50100205	Bookbinders, Mach.
		50100206	Bindery Workers, Assembly
		50100207	Bindery Workers, Stitch
		50100208	All Other Bindery Workers
		50100601	Electrotypers
59.0104	Special Education In-School		

CIP CODE	CIP TITLE	RELATED OES MATRIX OCCUPATIONS CODE	TITLE
5,000-10,000 Enrollment			
06.0201	Accounting		
18.1101	Nursing (Assoc. Deg)	10100800	Nurses, Professional
20.0401	Food Production, Management & Services		
46.1000	Construction & Building Trades		
48.0101	Drafting, General		
07.0101	Accounting (1 Yr. Program)		

AS CIPS ON FILE AS OF 5-31-84 ALPHA ORDER

TITLE / TABALIST CODES CONTAINING THIS CIP

ACCOUNTING AND COMPUTING
01070101BAVT 070705ACVT
AGRICULTURAL ELECTRIFICATION, POWER, AND CONTROLS
01468901HEVT
AGRICULTURAL MECHANICS, CONSTRUCTION, AND MAINTENANCE SKILL
01010701PMMI 470805SEVT
AGRICULTURAL POWER MACHINERY
01010201PEVT 01070117MVT 01070604MVT 01030101EVT 01030101PEVT 47080888
AGRICULTURAL SERVICES
01430203STVT
AGRICULTURAL STRUCTURES, EQUIPMENT, AND FACILITIES
01468901CAVT
AGRICULTURAL SUPPLIES MARKETING
01010201AEVT 01030101EVT 01050302AUVT 01050101GVT
AGRONOMY
01010301CPVT 01030101PBVT 01030117BVT 01070406EVT 01030478VT
ANIMAL BREEDING AND GENETICS
01010301CAVT 01030101PBVT 01030115PVT 01030238AVT
ANIMAL HEALTH
01010301CBVT 01030100WVT 01030101PBVT 01030115PVT 01030238AVT
ANIMAL NUTRITION
01010301CBVT 01030100WVT 01030101PBVT 01030115PVT 01030238AVT
ANIMAL PHYSIOLOGY
01010301CBVT 01030100WVT 01030101PBVT 01030115PVT 01030238AVT
ANIMAL PRODUCTION
01010301CBVT 01030101PBVT 01030100WVT 01030101PBVT 01030101PPVT 01030115P
ARCHITECTURAL DRAFTING
01460101ABVT 460101AMMI
AUCTIONEERING
01010503AUVT
AUTOMOTIVE BODY REPAIR.
01470603ABVT
AUTOMOTIVE MECHANICS
01470606AEVT 470606AMMI 470606AVVT
AUTOMOTIVE VEHICLES AND ACCESSORIES MARKETING
01470606APVT
BAKING.
01200401BAVT 200401PSMI
BANKING MARKETING
01050700NCVT
BARGE AND BOAT OPERATION.
01480306SBVT
BOOKBINDING
01460201GAMI
BOOKKEEPING
01070101BAVT 070101BCVT 070606MCVT
BRICK, BLOCK, AND STONEMASONRY
01468901BLVT 468901MAVT 468901MMMI
BUILDING MAINTENANCE
01200601JAVT 468901BBVT
BUILDING MATERIALS MARKETING.
01050700MSVT
BUSINESS COMPUTER AND CONSOLE OPERATION
01070301COVT 070301BDVT 070301DPMI
BUSINESS DATA ENTRY EQUIPMENT OPERATION.
01070301COVT 070301DEVT 070301DPMI
BUSINESS DATA PERIPHERAL EQUIPMENT OPERATION.

01070301DPMI
BUSINESS DATA PROGRAMMING.
01070301DPMI 070301PBVT
BUSINESS MACHINE REPAIR.
01470102BMVT
CARPENTRY.
01468901CHVT 468901CAVT 468901CMMT
CHEF/COOK.
01200401CCVT 200401PSMI
CHEMISTRY TECHNOLOGY
01117300MLVT
CHILD CARE MANAGEMENT
01200201CWVT
CIVIL TECHNOLOGY
01142801LSVT
COMMERCIAL ART
01460201GAMI
COMMERCIAL GARMENT AND APPAREL CONSTRUCTION
01200301ISVT
COMMERCIAL PHOTOGRAPHY.
01460201GAMI 460204SPVT
COMMUNICATIONS ELECTRONICS
01468902ELMI 470101R7VT 470103AVVT 470103CTMI 470103RCVT 470105EM
COMPANION TO THE AGED
01179900HWVT
COMPOSITION, MAKE-UP, AND TYPESETTING.
01460201GAMI 460201PBVT 460203AAVT 460204PTVT
COMPUTER ELECTRONICS
01470105EMVT
COMPUTER SERVICING TECHNOLOGY
01470105EMVT
CONCRETE PLACING AND FINISHING.
01468901CWVT
CONVENIENCE STORE MARKETING.
01050700CCVT 050700PMVT
COOLING AND REFRIGERATION
01470201RMVT
COSMETOLOGY
01120403CVVT
COURT REPORTING
01070001LSVT
CREDIT MARKETING
01070705ACVT 050705ACVT
CREDIT UNION MARKETING.
01050700NCVT
CRIMINAL JUSTICE TECHNOLOGY.
01430105CSVT
CROP PRODUCTION
01010301CPVT 01030101PBVT 01030101PEVT 01030101BVT 01030101MMT 01030101VE
CUSTOM APPAREL/GARMENT SEAMSTRESS
01200301CDVT 200304ALVT
CUSTOM DRAPERY AND WINDOW TREATMENT DESIGN/MAKING
01050700MPVT 200301ISVT
CUSTOM SLIPCOVERING AND UPHOLSTERING
01050700MPVT 200503UPVT
CUSTOM TAILORING AND ALTERATION
01200301CDVT 200304ALVT
DAIRY
01010301DMVT
DENTAL LABORATORY TECHNOLOGY
01170103DLVT

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DIESEL ENGINE MECHANICS

DRAFTING AND DESIGN TECHNOLOGY

DUPLICATING MACHINE OPERATION

ELECTRICIAN

ELECTRONIC TECHNOLOGY

EMERGENCY MEDICAL TECHNOLOGY - AMBULANCE

EMERGENCY MEDICAL TECHNOLOGY - PARAMEDIC

EXECUTIVE SECRETARIAL

FARM AND RANCH SUPPLIES MARKETING

FARM AND RANCH MANAGEMENT

FASHION MERCHANDISING

FASHION/FABRIC COORDINATION

FIREFIGHTING

FLOOR COVERINGS, DRAPERIES AND UPHOLSTERY MARKETING

FLORAL DESIGN

FLORICULTURE

FLORISTRY

FOOD CATERING

FOOD SERVICE

GENERAL OFFICE CLERK

GERIATRIC AIDE

GREENHOUSE OPERATION AND MANAGEMENT

HARDWARE MARKETING

HEATING AND AIR CONDITIONING.

HEAVY EQUIPMENT MAINTENANCE AND REPAIR

HEMATOLOGY TECHNOLOGY

HOME FURNISHINGS AIDE

HOME HEALTH AIDE

HOMEMAKER'S AIDE

HORTICULTURE SCIENCE.

HOTEL/MOTEL MANAGEMENT

INDUSTRIAL ELECTRONICS

INDUSTRIAL MACHINERY MAINTENANCE AND REPAIR.

LANDSCAPING

LAW ENFORCEMENT

LITHOGRAPHY, PHOTOGRAPHY, AND PLATEMAKING

LIVESTOCK

LOAN CLERK

LOGGING

MACHINE BILLING, BOOKKEEPING, AND COMPUTING.

MACHINE TOOL OPERATION/MACHINE SHOP

MAJOR APPLIANCE REPAIR

MARINE MAINTENANCE

MARINE PROPULSION TECHNOLOGY.

MARKETING MANAGEMENT

MARKETING OF HOTEL/MOTEL SERVICES

MATERIAL HANDLING.

MEATCUTTING.

MECHANICAL DESIGN TECHNOLOGY

MECHANICAL DRAFTING

MEDICAL ASSISTING

MEDICAL LABORATORY TECHNOLOGY

MEDICAL RECORDS TECHNOLOGY

MEDICAL SECRETARIAL

MENTAL HEALTH/HUMAN SERVICES ASSISTING.

MILLWORK AND CABINET MAKING.

MINING EQUIPMENT OPERATION.

WOODLOT PRODUCTS

WOODLOT OPERATION AND MANAGEMENT.

NURSING ASSISTING

OBSTETRICAL TECHNOLOGY

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070601          OFFICE SUPERVISION AND MANAGEMENT
070601  0107030ICGVT 0703010GVT 0706010GVT 0706010EVT 0707050ACVT 0507050M
070305          OIL AND GAS DRILLING EQUIPMENT OPERATION AND MAINTENANCE
470308  0147030501VT
470308          OPERATION, MAINTENANCE, AND REPAIR OF AUDIO-VISUAL EQUIPMEN
470308  0147010301VT
020404          ORNAMENTAL HORTICULTURE
020404  0101000IPMVT 0100010CVT 0100010GVT 0100010PVT 0100050GXVT 0704040NP
170604          PEDIATRIC AIDE
170604  0117050004VT
480707          PHOTOGRAPHIC LABORATORY AND DARKROOM
480707  0148030ICAMI 480304PTVT
480502          PIPEFITTING AND STEAMFITTING
480502  0148050103NVT
480503          PLUMBING
480503  0148050IPLVT 480501PHMI
020709          POULTRY
020709  0101030IPPVT
170605          PRACTICAL NURSING
170605  0117050OLPVT
480308          PRINTING PRESS OPERATIONS
480308  0148020ICAMI 480201PGVT
051703          PROPERTY MANAGEMENT
051703  0105150IPMVT 2005010MVT
470504          PUMPING PLANTS
470504  0147050400VT
070707          RECEPTIONIST AND COMMUNICATION SYSTEMS OPERATION.
070707  0107050SMCVT 050502MMVT
050904          RECREATIONAL PRODUCTS MARKETING.
050904  0105070OPMVT
051707          RESIDENTIAL PROPERTY.
051707  0120050IPMVT
050703          RESORT MANAGEMENT.
050703  0105050I2MMVT
050704          RESTAURANT MANAGEMENT.
050704  0105050I2MMVT
050705          RETAILING.
050705  0101050ICCVT 0507050CCVT 0507050PMVT 0507050FXVT 0507050MXVT
480410          ROOFING
480410  0144050101PVT
480308          SAILORS AND DECKHANDS
480308  0149020550VT
050708          SALES
050708  0101050I2AUVT 0105010CCVT 0507050FXVT 0507050MXVT
070805          SECRETARIAL
070805  0107060I1CMI 0706051I0VT
420108          SECURITY SERVICES
420108  0143010ISCRVT 4201010GVT
480504          SHEET METAL.
480504  0148050I0SMVT
070706          SHIPPING, RECEIVING, AND STOCK CLERK.
070706  0107040I5RVT 0707050ACVT 0507050MMVT
470406          SHOE AND BOOT REPAIR.
470406  0120030111VT
480209          SILK SCREEN MAKING AND PRINTING.
480209  0148030IPGVT
470606          SMALL ENGINE REPAIR.
470606  0147060450VT 4706060EVT
010205          SOIL AND WATER MECHANICAL PRACTICES.
010205  0101030150MI
010205          SOIL MANAGEMENT AND FERTILITY.
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020504  0101030150MI
050503          SPECIALTY FOODS MARKETING.
050503  0105070OCCVT 0507050PMVT
070607          STENOGRAPHIC
070607  0107050I5CMI 0706051I0VT
050504          SUPERMARKET MARKETING.
050504  0105070OCCVT 0507050PMVT
150203          SURVEYING AND MAPPING TECHNOLOGY.
150203  0115010LSVT
200205          TEACHER AIDE
200205  0120030I0WVT
070205          TELLER
070205  0107010IPMVT 0507050PMVT
200307          TEXTILES TESTING.
200307  0120030I7PVT
170602          THERAPEUTIC CHILD CARE WORK
170602  0117050004VT
062001          TRADE AND INDUSTRIAL SUPERVISION AND MANAGEMENT
062001  0105020010NVT 4500010PVT 4701020MVT
070206          TRANSIT CLERK
070206  0107010150VT
480205          TRUCK AND BUS DRIVING.
480205  0149030STTVT
020410          TURF MANAGEMENT SCIENCE
020410  0101050IPMVT 0105010EGVT 0705050EXVT 0105077MVT
010507          TURF MANAGEMENT
010507  0101050IPMVT 0105077MVT 0204040NPVT
070710          TYPING
070710  0107050150VT
480303          UPHOLSTERING
480303  0104470ONPVT 2005030PVT
050505          WAITER/WAITRESS AND RELATED SERVICES.
050505  0105070OWVVT
150506          WATER AND WASTEWATER TECHNOLOGY
150506  0147050AWVVT
480504          WELDING, BRAZING, AND SOLDERING
480504  0148050ICWVT 480503WMMI
070604          WORD PROCESSING
070604  0107030I0EVT 0706010MVT
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Questionnaire

V-TECS Member Responding: _____

Name of Agency: _____

Individual Completing This Form: _____

Title: _____

Address: _____

Telephone: _____

1. As of _____ we have _____
   Date
   have not _____

   considered the likely utility of the Occupational Data Analysis System for our state.

2. We have determined the following agencies are interested in the availability of this system.

   Name of Agency: _____

   Individual for Contact: Name: _____

   Title: _____

   Address: _____

   Telephone: _____

   Name of Agency: _____

   Individual for Contact: Name: _____

   Title: _____

   Address: _____

   Telephone: _____

Name of Agency: _____

Individual for Contact: Name: _____

Title: _____

Address: _____

Telephone: _____

Name of Agency: _____

Individual for Contact: Name: _____

Title: _____

Address: _____

Telephone: _____

3. We have not determined a specific interest in the ODAS but expect the following agencies would be likely to be interested in the system.

Agency Name: _____

Possible Contact Person: _____

Name: _____

Title: _____

Address: _____

Telephone: _____

Agency Name: _____

Possible Contact Person: _____

Name: _____

Title: _____

Address: _____

Telephone: _____

Agency Name: _____

Possible Contact Person: _____

Name: _____

Title: _____

Address: _____

Telephone: _____

Agency Name: _____

Possible Contact Person: _____

Name: _____

Title: _____

Address: _____

Telephone: _____

Agency Name: _____

Possible Contact Person: _____

Name: _____

Title: _____

Address: _____

Telephone: _____

Please add any additional agencies beyond the space provided.

Thank you.

EXECUTIVE SUMMARY OF M.O.D.A.S.

The Michigan State Board of Education in collaboration with the Michigan Department of Labor, Michigan State University, and V-TECS has developed a system which uses occupational keywords from the Federal Handbook of Occupational Keywords to sort and analyze a database of tasklists. These tasklists can then be linked to DOT titles, educational levels, training times, physical demands, and working conditions.

The system has many possible applications. For curriculum development it can be used to identify the basic skill requirements for each DOT job title included, identify those job titles related to a particular educational program, identify specific tasks required within a job, link educational programs with labor market information, and identify the aptitudes, interests, materials, products, and services associated with tasklists.

In terms of clustering occupational areas, the system can identify the DOT job titles which can be appropriately grouped together and identify those tasks which would be common to the occupations within the cluster. It also identifies basic skill requirements for the jobs which fall within a cluster.

The system can be applied to meeting short term training needs. It can be used to help pinpoint needs of an employer and then identify those tasks required to meet the needs. It can show tasks which are common to related job titles, thereby giving an estimate of training time and content needed within a training program.

The system can be used in additional ways for the assessment and training of displaced workers. It can identify the tasks and basic skills involved in a worker's background and identify tasks and requirements for a different job a worker might be considering. It can also assist in the development of educational plans in view of a worker's specific needs.

For the purpose of economic development, the system can be used to identify the needs of an employer, the tasks and basic skill levels which are related to those needs, identify existing educational programs which could fill training needs, or facilitate the design and implementation of a new one.

TOICC MODAS ASSESSMENT QUESTIONNAIRE

Institution/Agency: _____

Address: _____

Position: _____

What function of MODAS are most useful to your institution?

_____

_____

How frequently would your agencyinstitution use MODAS?

_____ Daily

_____ Weekly

_____ Monthly

Would your staff use the system as it currently exists?

_____

_____

Would you prefer to be able to call someone who would perform services for you?

_____

How long would it take you to become familiar with the system?

_____

How long would it take your staff to become familiar with the system?

_____

Do you think you can effectively use the system without additional training on keywords?

_____

What kind of support/training materials should be provided in order to effectively use the system?

1. Examples of Applications
2. Basic MODAS Training Package
3. How to Use Occupational Keywords
4. Other _____

Do you think that clients of your agency could effectively use the system as it exists now?

_____

Do you feel that it is appropriate for clients of your agency to use the system?

_____

The MODAS task lists currently cover 33% of the CIP Programs approved by the ISBE.

There is no coverage of CIP programs that require a Baccalaureate or higher degree.

Do you feel that this is a factor that limits your interest in the system?

_____None _____Some

_____Indifferent _____Very Important

Would the gaps in the system cause serious analytical gaps for your proposed uses?

_____

Problem areas: _____

Would you still be willing to use the system knowing the gaps exist?

_____

If changes were made in the system, what would be your recommendations for diminishing gaps?

_____

_____ BICS

_____ ECN

_____ PLATO

_____ Other

Do you have a terminal that could be used to communicate with one of these central computers?

_____

Do you have a printer that could be used to supplement your terminal?

_____

Would you prefer to call directly to the central computer at the University of Michigan?

_____

If you do not have access to a central computer facility, would you be willing to pay for:

_____ equipment

_____ Printer

_____ Terminal

_____ telephone charges

_____ computer charges

Would you be willing to pay a fee to utilize the MODAS system?

_____

How much would your agency be willing to pay on an annual basis?

_____